Military Spending and Economic Growth in Pakistan

Muhammad Nadeem Mirza, Zafar Nawaz Jaspal, Ahmed Ijaz Malik

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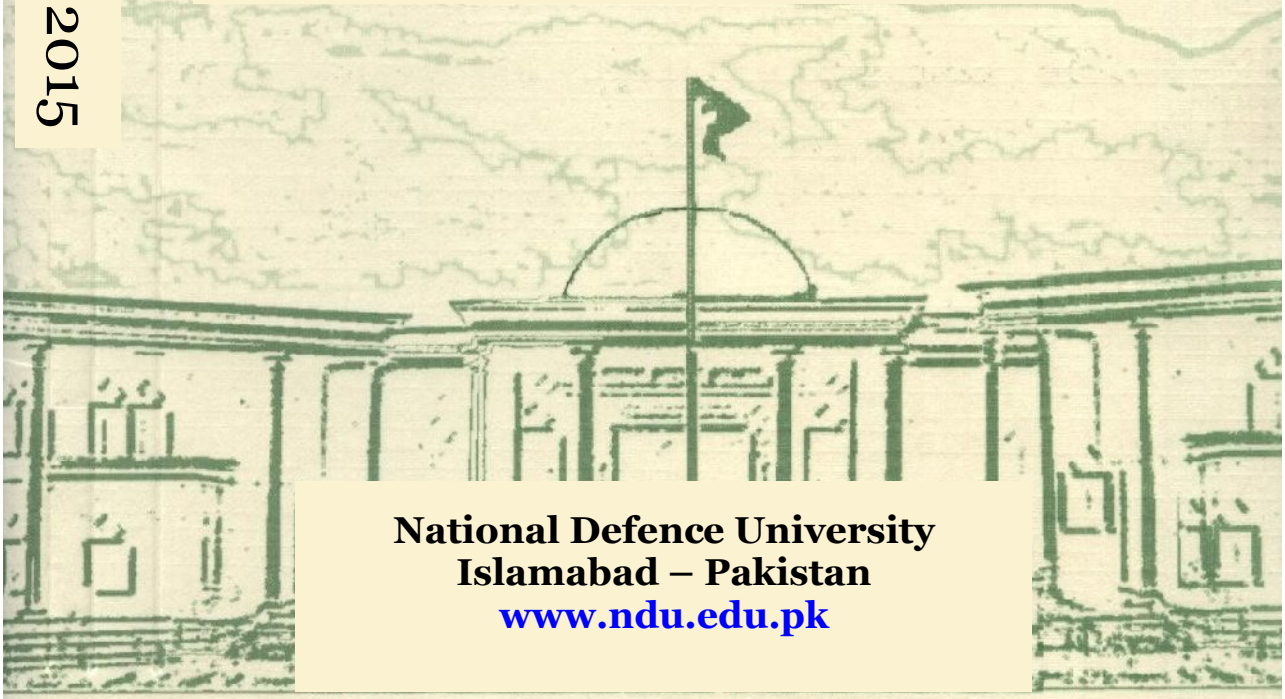

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MILITARY SPENDING AND ECONOMIC GROWTH IN PAKISTAN

Dr. Muhammad Nadeem Mirza, Dr. Zafar Nawaz Jaspal and Dr. Ahmed Ijaz Malik

Abstract

This paper deals with the causal relation between military spending and economic growth of a state. There are three schools of thought on this issue: military spending promotes economic growth; it retards economic growth; and there exists no causal relations between the two. Pakistan's military spending – being indispensable because of the existing threat perception – has been considered as a burden on the national economy. This paper argues that military spending as part of the budgetary expenditure does not all go in the drain. Its role in the economic development of Pakistan – if less in economic growth – cannot be neglected. However, their indirect impact on the economic growth of Pakistan has been substantial. Technological advancement, provision of security, military's social uplift projects which positively affect the 'health' of the economy, military's ancillary institutions like Fauji Foundation, Bahria Foundation, Shaheen Foundation, Army Welfare Trust (AWT) are performing their role directly in the economic growth of the state. Importantly, Arms trade internationally has been contributing trillions of dollars in various states economies. This paper suggests that defence industrial capacity and efficiency can be improved in order to increase the output, which in turn, would help the state's economy by earning millions of dollars through arms sale at the international arena and by ensuring the continued supply of necessary equipment to its armed forces, especially in the times of crises – which in turn, may not only ensure the security of the Pakistan, but also reducing the political leverage being held by great powers on Pakistan. To achieve the target, as a first step, efficient planning be done so as to make the defence industry self-sufficient, and in the long-run to strengthen it to support the overall military spending. This way, it would not

only contribute to the economic development, but also in the economic growth of Pakistan.

Key Words: security, military spending, economic growth

Introduction

Military spending is imperative for Pakistan because of the country's complex, ambiguous and volatile strategic environment. Security concerns in Pakistan are increasingly amalgamated when juxtaposed on inter-state border issues, intra-state ethnic tension and the war on radicalized militant groups in the entire country, such as Tehrik-i-Taliban Pakistan terrorist syndicate, and spillover impact of protracted asymmetrical warfare in Afghanistan. The notion of security among the South Asian states is directly and indirectly affected by the defence spending and military build up of China, India and Pakistan as well as the military postures and policies of other countries well beyond the region.[1] China and India, in terms of military, geography, and demography, are the larger states in the region. India's predominant geopolitical position in the region – sharing border with most of the South Asian states (except Afghanistan) – enflames its aspiration to be an eminent state or the "big brother"[2] in the region. China and Pakistan, having the sufficient military potential and the 'strategic will', have deterred such Indian hegemonistic designs.

The South Asian history is marred with frequent inter- and intra-state conflicts, particularly India and Pakistan belligerent relationship. The rivalry between India and Pakistan was precisely spelled out by Saeed Shafqat: "Despite shared colonial past, visible cultural and institutional similarities, the dynamics of power relations continue to be driven by hostility, lack of trust, conflict and war. Insecurity, fear and suspicion of the 'other' continue to keep South Asia as the 'nuclear flash point'. Peace, cooperation, economic partnership remains elusive."[3] Another South Asian expert Stephen Philip Cohen argued that: "One of the most important puzzles of India-Pakistan relations is not why the smaller

Pakistan feels encircled and threatened, but why the larger India does. It would seem that India, seven times more populous than Pakistan and five times its size, and which defeated Pakistan in 1971, would feel more secure. This has not been the case and Pakistan remains deeply embedded in Indian thinking."[4] The relations between the two shape the political and strategic outlook of the South Asian region.

Since the independence, Pakistan's defence policy – and hence military spending – has remained India-centric. India however, has blamed China for initiating the conventional and nuclear arms race in South Asia. The mistrust coupled with the threat perception and security dilemma has ignited a continual arms race in the sub-continent, with both India and Pakistan ensnared in hardware myopia requiring traditional military definitions and approaches for attaining national security.[5] So military spending and budgets for developing military industrial complexes have increased manifold in the recent decades. Since the beginning of twenty-first century, India's military spending has immensely surpassed Pakistan due to the latter's economic degradation.[6] The growing Indian economy has facilitated a growth in military expenditure in real terms. India is currently implementing and planning major investments in new weapons and other military equipment, reportedly for a total of between $100-150 billion in the period 2012-2021.[7]

Importantly, the collective world military expenditure during the year 2012 was estimated as $1756 billion, representing 2.5 per cent of global Gross Domestic Product (GDP) or $249 for each person in the world … the total is higher than in any year between the end of World War-II and 2010.[8] Out of that sum total, billions of dollars have been spent on arms trade. Pakistan and India are important arms importers because the pace of development of their domestic arms industry remains slow.[9] It will be useful to assess the possibilities of Pakistan effectively employing its defence industry optimally, thus exploring and utilising the revolution in military affairs (RMA), for the attainment of a heightened degree of economic growth.

The impacts of the military spending on economic growth remain controversial especially in developing states with lingering strategic and military irritant issues because of the continuing tension between domestic socio-economic needs on one hand, and defence and foreign policy compulsions on the other. Nevertheless, the Classical economists including Adam Smith acknowledged: "The first duty of the sovereign … that of defending the society from the violence and injustice of other societies grows gradually more and more expansive, as the society advances in civilization."[10] It has been established throughout Pakistan's history that the principal responsibility of every government is to develop its defence forces in order to ensure its national survival, sovereignty and enhance its national interest. The enduring question remains, "how much (defence spending) is enough?"[11] The strategic/defence analysts have been struggling to answer this question in different ways. Despite it, the issue remains contentious considering the conflict ridden under-developed states that are compelled to channelize crucial developmental resources for military industry.

This study aims to critically examine the impacts of military spending upon national economic growth. In addition, an effort would be made to identify the negative effects of military spending and how these may be mitigated. It would also explore whether military spending can be utilised to contribute towards the economic progress of Pakistan. The study is divided into three sections. The first section deals with the conceptual constructs of the study. Second section spells out the relationship between military spending and economic growth of the country. The third section contains deliberation on Pakistan's military spending and its relations with the national economic growth.

Military Spending and Economic Growth: Conceptual Constructs

The budgetary expenditures are broadly of two types.[12] Developmental expenditures consist of social community services and economic services. Non-developmental

expenditures consist of defence and interest payment. In the post-cold war era, the concept that 'military spending'[13] is a non-developmental expenditure has gone through a major shift. There have been views that although military spending might not fall under the developmental expenditure category of the budget, yet if employed effectively, it can help not only in the economic growth but also in the economic development of the state.

The concept of Military Spending has been explained by Stockholm International Peace Research Institute (SIPRI) as:

> *...expenditure on the following actors and activities: (a) the armed forces, including peacekeeping forces; (b) defence ministries and other government agencies engaged in defence projects; (c) paramilitary forces, when judged to be trained and equipped for military operations; and (d) military space activities. It includes all current and capital expenditure on: (a) military and civil personnel, including retirement pensions of military personnel and social services for personnel; (b) operations and maintenance; (c) procurement; (d) military research and development; and (e) military aid (in the military expenditure of the donor country).* ***It does not include*** *civil defence and current expenditure for past military activities, such as for veterans' benefits, demobilization, conversion and weapon destruction.*[14]

The military spending is indicative of a state's threat perception and its intentions of possible aggressive and expansionist policies in the future. Economic growth is the increase in the total amount of production and wealth in an economy. It is the ability to produce a larger total output.[15] Economic growth is a dynamic entity and for the world as a whole, the growth rates were close to zero over most of the

history, but have increased sharply in the 20th century.[16] Two credible indicators of economic growth are GDP Gross Domestic Product (GDP) and Gross National Product (GNP). GDP is the market value of all final goods and services produced within a country in a given period of time.[17] GNP is the market value of final goods and services (including both consumer and capital), plus incomes earned by the national residents in foreign countries, minus incomes earned locally but accruing to foreigners.[18] A state's GDP and GNP can be increased through different means especially by industrial productivity, agricultural efficiency, enhancement in the services sector, revenue collection or through the collection of the custom duties on imports.

The term economic development is often likely to be confused with the economic growth. While economic growth is related to the *health of the economy*, economic development is related to the *health of the society* and its people. Infant mortality rates, access to educational services, quality of life of its people, law and order situation, and other such indicators are used to measure the economic development of the state. It will be assessed whether military spending may increase the economic growth of a state, but its impact on the economic development of the state can rarely be questioned.

The discussion on beneficial and detrimental effects of the military spending and its relation to economic growth necessitates an inquiry into the primary incentives and motivations for huge military spending. For the conflict ridden developing states, the primary objective remains 'security'[19] against internal and/or external; actual and/or perceived threats.[20] The quest for national security appears to represent both means and ends of the state's policies. In social sciences' academic circles, security studies may be defined as the "study of threat, use and control of military forces … in order to prepare for, prevent and engage in the war."[21] Stephan Walt has highlighted three phenomena along with three objectives. First is the threat of the use of military force; second is the actual use of military force, and third is the control of the military force being used. Considering the ways

and means to counter the threat or use of force, the objectives have been delineated as: first, 'to prepare for the war' in the peacetime. Second, 'to prevent' the incidents of war through measures short of war – including deterrence which is defined by *US Department of Defense* as "the prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits."[22] Third, 'to engage in war:' if war could not be prevented, then it must be fought with the objective to achieve victory over the belligerents.

Sophisticated strategic technologies have been declared as "forbidden fruit"[23] for the developing states, because the advanced states only wish to sell their "end-products" and preserve the right to develop their technological base. This so-called *ban* has proved to be a big hurdle in the progress of these developing states like India and Pakistan which have been trying – since long – to develop their own strategic industrial base so as to ensure the supply of minimum defence equipment in case of any foreign misadventure.

Another related question to the debate: whether it is military spending that promotes economic growth, or it is economic growth that leads to the increase in the military budgets in order to strengthen any state's position in the military sphere (after being established it, in the economic sphere).[24] Emile Benoit studying forty-four Less Developed Countries (LDCs) in different overlapping periods (addressed this question as) "higher defence expenditure was more likely the cause rather than the effect of the economic growth."[25] He concluded that the "direct interaction … seems to run primarily from defence burdens to growth, rather than the vice versa."[26] Defence spending may affect the economic growth of a state, but opposite is also possible. For example, "a country with a high economic growth rate may be willing to strengthen its armed forces through increased defence expenditures."[27]

Military Spending and Economic Growth: A Debate

The causal relation (positive or negative) between the military spending and economic growth was seriously debated during the last quarter of twentieth century. It resulted in the emergence of the third school of thought which believes that 'there exists no causal relationship between the two'. Military spending affects economic growth of a state in two ways: demand-side effects and supply-side effects.[28] The demand-side effect implies that defence expenditure increases the aggregate demand. While supply-supply effects are of two types: Direct effects, which are mostly negative in nature (i.e. crowding out of the investment and the capital from the civilian economic activities), and indirect effects about which a controversy exists (whether these are positive or negative). Indirect effects are mainly of four types: training effects, infrastructural effects, consumable effects, and security effects.[29] Ron Mathews pointed out four areas of economic growth affected by defence expenditure either positively or negatively: "modernisation, capital accumulation, export performance, and technological innovation."[30]

Military Spending and Economic Growth: Supporting Arguments

Conservative commentators on military strategy, including Winter argue that a viable approach to national security is to maintain an adequately sized, trained, and equipped force that is capable of dissuading, deterring, and – if necessary – defeating a diverse set of future adversaries.[31] According to this view, if military security is compromised then all other economic, developmental and monetary gains appear vulnerable. Moreover, in addition to conservatives, certain cosmopolitan thinkers also posit that for the resource unconstrained states, because of their other positive aspects (education, linkage with industry, etc.), defence spending may play an important role in increasing growth.[32] Benoit employed simple regression analysis to trace the impact of defence burden (the ratio of defence expenditure to GDP) on the growth rate of the civilian GDP and said that the military

spending affects GDP positively.[33] It has been argued that: first, there are incentives to develop military and related ancillary industries because considering the skill, development or the training effects, the military imbues LDC workers with modern workforce discipline, skills, and attitudes. The training which is being given by the defence sector, not only to the uniformed but also to the civilians, enhances the level of skilled labour of a state. Even after the retirement from the defence sector, they are likely to contribute to the civilian economic uplift. This impact is especially significant in the developing countries, where the civilian technical training institutions are either weak, or insufficient to impart vocational training to the aspirants. Heightened levels of literacy, social and economic development and vocational training through the military's educational institutions have been the areas that experience the multiplier effect through capitalizing on the already developed defence industry.

Second, amelioration of the infrastructure and the related consumption effects through which the military spending may indirectly contribute to economic uplift of the states by the development of the public infrastructure such as roads, bridges, railway lines, airports, canals, dams, and other engineering projects which have alternative civilian usage. These projects are especially helpful in the less populated and remote areas where civilian governments have less resources and incentive to invest in (especially in the LDCs).

Third, considering the inflationary stimuli, defence spending may have the potential to lead to a controlled gentle level of inflation, promoting higher utilisation of existing productive capacity.[34] Fourth are the security effects. Ironically, one of the biggest problems for the developing states is the maintenance of the law and order domestically and protection from abroad. In the initial stages, well-trained armies may provide a helping hand to the civil security organizations, as is often the case in states including Pakistan. Besides these four areas, technologically advanced militaries may have the potential to act as actors in assigning a higher

position to the states in the hierarchical international system, thus providing them with more political leverage in the political arena. In the LDCs, the advancement in the military technology is also often used by the political leadership to enhance their standings in the domestic politics. Providing quality health services to both uniformed and non-uniformed personnel in the LDCs, is one area where military excels and helps in the social development of the states, thus enhancing the services sector of the economy.

Military spending is considered to stimulate demand and thus results in more employment opportunities especially in the less developed countries. Hence, Military Keynesian's argue that in view of unemployment in an economy, higher military spending add to aggregate demand resulting in greater national output. However, in a full employment economy, higher military spending may be inflammatory or could be associated with balance of payment problems.[35] Scholars associated with Military Keynesian Hypothesis (MKH) argue that defence expenditure is a part of overall budgetary outlay and the government has considerable discretionary control over it, therefore defence expenditure has not only positive effects on economic growth but could also be used to stabilize the economy as a fiscal instrument.[36] On the basis of MKH, Looney opined that Pakistan's defence expenditure works as a stabilization tool, especially during the periods of relative peace with India.[37]

Defence industry is earning trillions of dollars annually in the world. Development of the industrial sector of the LDCs is one area where military spending may have positive impact. The defence industry earns the states billions of dollars through selling arms and other related equipment. Besides, Research and Development (R&D) section of these industries benefits the civilian industrial sector both technologically and in the development of the skilled manpower for the states.

In the resource scarce states like Pakistan, nuclear reactors – if managed properly – can help give a boost to the economic uplift of the state through the uninterrupted supply of the

energy. After establishing a nuclear threshold in the military sector, these nuclear reactors might be used for the economic uplift of the states.

Military Spending and Economic Growth: Opposing Arguments

Many analysts, such as, Saadet Deger and Ron Smith argue that military expenditure in less developed countries has a minimal positive effect on growth through modernization effects[38], but the net effects on the growth rate remains negative. Deger and Sen pointing to the causal relationship between military spending and economic growth further claim that economic 'spin-off' from defence to development is weak.[39] On the other hand, Emile Benoit while pointing to the positive effects of the military spending upon economic growth in LDCs, also noted certain negative effects, however, he concluded that the positive effects outweigh the negative effects. He categorized these negative impacts in three areas, first, income shift, implying rising military-outlays reduces the civilian domestic product. Second, productivity effect: the public defence sector is characterized by slower increases in efficiency when compared with the private civilian sector. Third, investment effect, which is based on the argument that military expenditure 'crowds out' civilian sector.[40]

Fredericksen and Looney while distinguishing the resource-rich and resource-constrained countries state that defence expenditure may be helpful for states that are industrially advanced, however for states with developing industries, it is more likely to siphon funds away from more productive domestic investments with a subsequent detrimental effect on growth.[41] Leontief and Duchin extending the arguments further claim that virtually all the economies are able to increase total output and per capita consumption as they progressively reduce their military spending.[42] Similar views are held by David Lim, who after conducting an empirical study noted that defence spending was detrimental to the economic growth.[43]

Following are the main negative effects of the military spending upon economic growth of the states being pointed out by different authors: crowding out of the investment from the civilian sector; military's "absorption of the scientists, engineers, designers and other skilled labour, thus depriving the dynamic civilian export oriented industries; capital in the form of land is also diverted away from the civilian sector."[44] Simultaneously, a significant section of scholars argue that there exist, no correlation between military spending and economic growth. Biswas and Ram noted "Military expenditures neither help nor hurt economic growth in the LDCs to any significant extent."[45] Scholars belonging to this category believe that one can observe a positive or negative relationship by focusing on certain time periods, limiting the sample to countries with certain characteristics, or adopting certain types of specification alternatives, while overall causal relation between the two variables does not exist.

Pakistan: Trends in Military Spending

Since independence, Pakistan has faced problems of its economic as well as strategic survival, because of the external threats and the internal disturbances aggravated by the poor and *ad-hoc* policies of the state and *much-hyped* foreign interventions. India and Pakistan are considered as two of the 'nine pivotal states' in the developing world.[46] India, which is aspiring for the international activism, is developing its arms industry vigorously, which in turn, creates serious security predicaments in Pakistan.[47] Pakistan has been spending more than substantial funds on its domestic and foreign arms procurements. Figure 1 represents the trends in Pakistan's military spending in last two decades. Figure 1 shows that the military spending increased in the first half of the 1990s, from $2722 million in 1988 to $3666 million in 1995, a 34.68 % increase, despite the fact that its economy was in doldrums because of the poor performance of the government and many layers of military and economic sanctions being imposed on Pakistan, due to its pursuance of a nuclear program.[48] By mid-1990s, through Brown's amendment, sanctions were relaxed resulting in respite to the economic situation of Pakistan. It

coincided with the decrease in the defence spending of Pakistan which was brought down to the level of 1990 i.e. $2842 million in 2001, a decrease of 22.48 %. During this period, Pakistan continuously managed to strengthen its military, ensuring its traditional security from all sorts of threats.

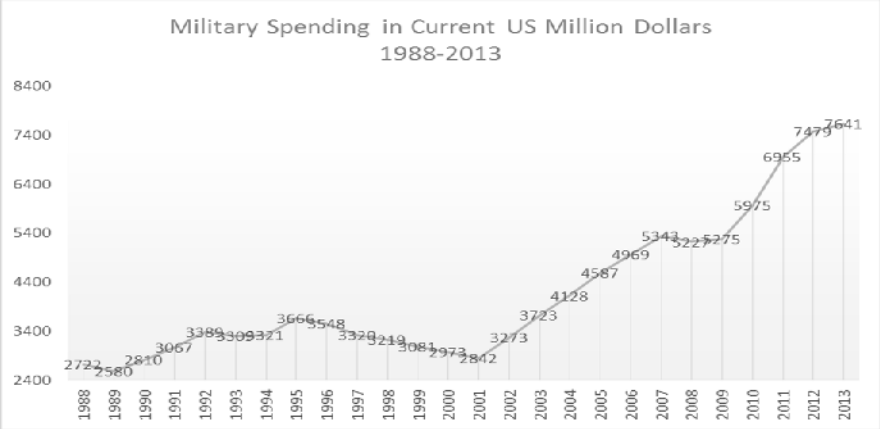

Figure 1: Military Spending in Current US Million Dollars: 1988-2013
(Source: Data taken from SIPRI Yearbook 2013)

After September 11, 2001 (9/11), majority of the sanctions on Pakistan were waivered,[49] which resulted in the opening up of the economic opportunities. Macroeconomic reforms in 2000s coupled with the inflow of money under Coalition Support Fund resulted in the economic recovery of Pakistan.[50] Pakistan privatised state-subsidised utilities e.g. it successfully privatised nationalised banks, broke up the monopoly of Pakistan Telecommunication Corporation, introduced successful reforms in trade and tariff, promotion of higher education, instituted a world-class anti-money laundering law, cracked down on piracy of intellectual property, agricultural and industrial reforms, and quickly resolved investor's disputes.[51] This policy did not display any significant short-term results but in the long-run, Pakistan's economy started showing some signs of improvement. Figure shows that its military spending has also seen a gradual increase culminating

in $7641 million in 2013 – an increase of 168.86%. There was a stagnation of the military spending from 2007-2009. It was the time when Pakistan's domestic politics was in turmoil because of the government's confrontation with the judiciary and the United States had initiated the tune of Pakistan's playing a 'double game' in Afghanistan.[52]

The 1990's were a specifically arduous period for Pakistan, because foreign aid was discontinued, and unstable domestic political situation resulted in the near bankruptcy of the state. The situation further aggravated, when Pakistan, in response to Indian nuclear explosions, conducted its nuclear tests.[53]

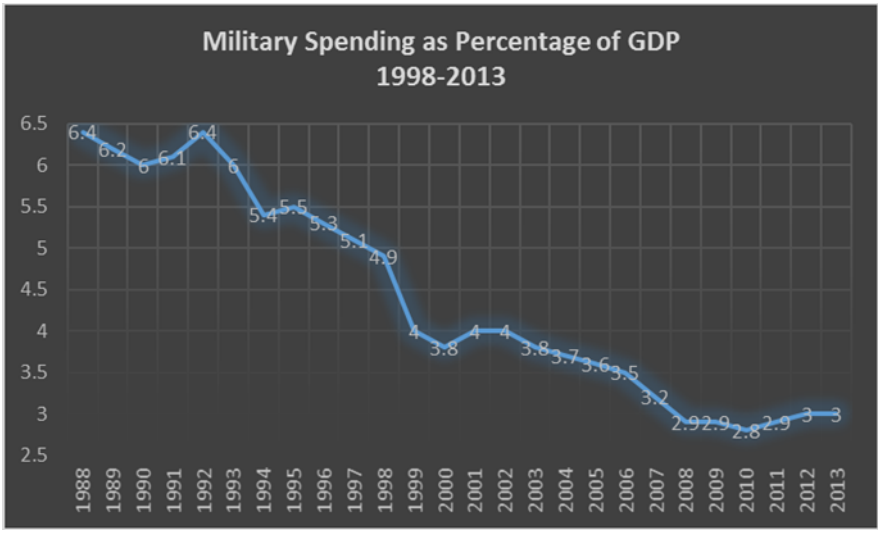

Figure 2: Military Spending as Percentage of GDP: 1988-2013
(Data Source: SIPRI Yearbook 2013)

It appeared that after attaining the threshold in the nuclear program and establishing credible nuclear deterrence, Pakistan decided to lower its military spending, so as to minimize the economic losses. Figure 2 represents Pakistan's military spending as percentage of the GDP for last two decades. It represents that the military spending as percentage of the GDP dropped down from 6.4% in 1988 to 3.8% in 2000.

From 2000–2006 Pakistan successfully met all the performance criteria negotiated with the IMF[54] and its GDP increased from 2% in 2001 to 7.7% in 2005. The years 2005 to 2008 were again hard for Pakistan as it was facing challenging politico-economic situation at home and extensive international pressure especially from international monetary organizations. Figure 2 shows that the military spending as percentage of GDP continued to drop down from 4% in 2001 to 2.8% in 2010, and again bouncing back to 3% in 2013.

Figure 3 represents one of the most important trends in this context. It shows that the military spending as percentage of overall governemnt spending decreased from 29 % in 1994 to 22.1 % in 2000.

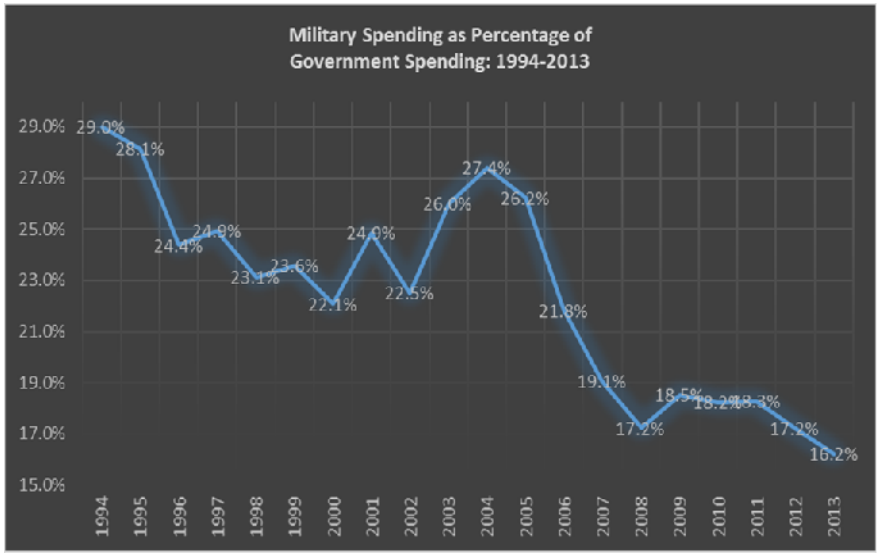

Figure 3: Military Spending as Percentage of Government Spending: 1993-2001 (Data Source: SIPRI Yearbook 2013)

Military spending as percentage of government spending increased for a short period of time to 27.4% in 2004, and again dipping down to 17.2% in 2008. From the period of 2008 to 2013, it remained almost stagnanat and its current level is 16.2% in 2013.

Indirect Contributions of Military in Pakistan's Economy

Analysts opine that the security studies in Pakistan have been based upon historical-realistic approach.[55] This realistic approach – coupled with the 'insecurity syndrome'[56] in Pakistan which was accentuated by the 1971 Pak-India war and the dismemberment of Pakistan – resulted in the strengthening the armed forced thus ensuring its security in the anarchic international system. The indirect impacts of military spending remain significant: evidence suggests that military spending is draining the civilian economy, but at the same time, it is the only institution in Pakistan which has employed the largest manpower in the country.[57] It also helps the civilian sector in the form of improved infrastructure (roads, communication links, bridges, airports) and social sector including hospitals, schools, colleges, universities. Owing to the substantial allocation of resources, the institutions run by military have appeared more efficient in the country. The most remote areas of the country e.g. tribal areas, northern areas, and parts of Balochistan are the ones which usually enjoy greater benefits because of the military's developmental activities.[58] Armed forces personnel undergo different necessary trainings (e.g. medical, technical etc) along-side military training. Military also provides them incentives to pursue higher education (not only to them but also to their children). When they retire from the service, they go back to the far-off areas of the country and help build their societies on the modernised lines. In Pakistan, 63% of the population resides in the villages[59] and when these retired army personnel go back to their villages, they usually open schools, local technical training workshops, medical dispensaries or other such activities, thus helping in the social uplift of the rural society.

Militaries in the developing states have the greatest stakes in the survival of the states and have gradually emerged as actors in state governance and politics and are more likely to act as a uniting or integrating agent, especially in the heterogeneous societies, such as Pakistani society, which is

struggling with ethnic differences. Military-related institutions in Pakistan, including Fauji Foundation, Shaheen Foundation, Bahria Foundation, Army Welfare Trust have employed civilians in addition to the retired military personnel and are also engaged in social uplift programmes including establishment of educational institution, health facilities etc., thus helping Pakistan in its economic development. They have invested in cement and fertilizer industries, construction works, electronics and electrical industries, etc. These industries are meeting the needs of the civilian economy, thus reducing the import burden by making Pakistan self-reliant and saving foreign exchange. Dr Ayesha Siddiqua in her *Military Inc.* has criticised the role of military, especially the organisations established for the retired military personnel, in the business and economy of Pakistan.[60] The MILBUS hypothesis has received criticism – both positive and negative. This paper entitled the view that there is nothing wrong in military's intervention in the civilian business avenues – as far as rules of games are clearly defined and military institutions or their subsidiaries do not establish their monopoly in the said business – rather it should be appreciated and encouraged. But at the same time, military's role in the civilian economy should be institutionalised, so as to avoid monopolistic tendency, and to encourage healthy competition in the civilian economy.

Pakistan's Defence Industry: Direct Contribution in Economic Growth

The strategic environment of the Southern Asia indicates that Pakistan is unlikely to reduce its military expenditure in the near future. Therefore, it seems appropriate to utilise Pakistan's existing military expenditure in the more productive and useful manner for the economic growth of the state. Steps can be taken to make the military as a whole, or as a first step military industry self-sufficient i.e. military industry to generate the revenue to be self-sustaining. Military industries are globally generating trillions of dollars per-annum. There have been propositions since Pakistan's independence to indigenise the defence industry. Indigenous

defence production and R&D will require the nation to develop the capacity to conduct research and produce the armament reasonably sufficient for catering the nation's military needs. The rationale behind such a strategy is the saving of the foreign exchange, technical independence, earning through sales, and thus the provision of substantial benefits to the civilian sector.[61]

Pakistan has faced challenges of maintaining its strategic as well as economic and natural resources. At the time of independence, there were sixteen operational ordnance factories on Indian soil, and none on the Pakistani side. Therefore, at the time of independence, Pakistan lacked the necessary machinery to start the building of its own ordnance factory. Its share of the ordnance factories was denied and instead was given a meagre sum of six crore rupees, which was insufficient to sustain the cost of even one factory, in January 1948.[62] In order to deal with the challenge, Pakistan had to either develop the military industry at home or import the necessary defence material from abroad. It adopted the two policies, simultaneously. Pakistan's first Prime Minister issued a special directive in early 1948 for the establishment of Pakistan Ordnance Factories (POF) in 1951[63] for self-reliance in defence production (at least for the small arms level). Pakistan also signed defence agreements during 1950s with the US to ensure the supply of advanced weaponry to its forces.[64] The supply of weapons continued till 1965 Indo-Pak War, when sanctions were imposed on both India and Pakistan. Pakistan faced a dilemma that it was dependant on the West for the supply of its arms, but India had adopted a multilateral approach and was also getting arms from Soviet Union. The 1971 war between India and Pakistan confirmed Pakistan's fears and it initiated a program of relatively greater self-reliance. In 1972, it established Defence Production Division to lay-down policy, formulate plans, coordinate between procurement and developmental activities, and to accelerate the pace of technological development to achieve greater self-reliance through indigenization.[65]

The Heavy Industries Taxila (HIT) was established in September 1971 to manufacture rebuild, upgrade, and develop tanks, tank guns and armoured personal carries.[66] In the following years, Pakistan established Pakistan Aeronautical Complex at Kamra, north of Islamabad. These facilities are being used to assemble and overhaul Chinese F-6s and French Mirages; produced the Mushshak and K-8 Karakoram trainer aircrafts, maintained and produced radar and avionics equipment, and recently produced JF-17 in collaboration with China.[67] It established a Heavy Forge Foundry in 1978 and a Heavy Rebuild Factory in 1979, besides modernising POF Wah.

Pakistan established Defence Export Promotion Organization (DEPO) in 2001, to promote exports associated with defence industry and to facilitate foreign inquiries related to defence products associated with Land, Naval and Air Forces, along with other Security Agencies.[68] Since 2001, it has been working efficiently to promote the defence products of Pakistan, abroad. To strengthen its defence production facilities, it re-designed Defence Production Division into Ministry of Defence Production in 2004, which was responsible for promoting and coordinating the procurement and the production of defence related equipment, and the export of the surplus goods to friendly and regional countries.[69] The modernization of the indigenous military build-up infrastructure entailed the launching of the International Defence Exhibition and Seminar (IDEAS) in 2000 – an event organised biennially. The IDEAS gradually became very popular. For instance, the IDEAS 2014 attracted 256 exhibitors and 88 foreign delegations from 50 countries, up from 65 exhibitors from 15 countries, and 285 delegations from 42 countries in 2000.[70] It has been a success story and resulted in the promotion of Pakistan's defence exports especially to the developing and under developed states of Asia and Africa.

Pakistan's defence industry has delivered the equipment worth $6.3 billion in 2009, and it was expected to reach $10.4 billion by 2015.[71] Most of the goods have been produced to

cater for the domestic needs of the armed forces. Learning from the past, Pakistan has been pursuing a policy for attaining self-reliance in its defence production. Since 2002, it has launched a program to enhance the existing capacity of the defence production facilities so as to give a boost to the defence exports.[72] As a result, the country's defence exports have tripled to around $300 million in 2012,[73] from $100 million in 2006 and $40 Million in 2000, an increase of 650%. Pakistan's defence products are in service in over 30 countries with an ever-expanding galaxy of satisfied customers.[74] The destinations include countries in Asia and the Far East, Africa and the Middle East, North America, the Central Asian States and Europe.[75] Pakistan has been exporting small arms and ammunition to these states, besides having some smaller deals for heavy products. It is looking forward to get major deals for Al-Khalid (tank), Al-Zarrar (tank), K-8 trainer (aircraft), JF-17 Thunder,[76] armoured vehicles, and indigenously built UAVs. Pakistan's defence industry has remained mostly the domain of public sector. But with the technological revolution of 1990s, and prudent policies of 2000s, several private enterprises have ventured in the field.[77] In 2006, the government has "given go-ahead signal to Pakistan Ordnance Factories (POF) to undertake greater collaboration with the private sector for manufacturing additional arms and ammunition for export."[78] POF and other public defence industries have launched several joint ventures with different private enterprises both domestic and abroad.

Information age wars require better access to the advanced technology and world's electronic infrastructure.[79] Despite these developments, Pakistan is lagging behind in the Research and Development (R & D) sector. It has been dependent upon the foreign sources for access to modern defence related technologies. Since 2000, Pakistan has introduced extensive infrastructural changes in the higher education resulting in increased output in the research sector[80] and the number of PhDs reached to 8142 in 2012.[81] Intellectual output aside, Pakistan is still lagging behind in the university-industry linkage. If dealt efficiently, this area may

have tremendous positive impacts on the qualitative industrial output in Pakistan – both in the civilian and military setups. Pakistan has been developing *smart arms and ammunition*. The difference between "smart arms" and "traditional arms" is immense: former means the arms fitted with the latest technological tools. The most advanced laser-guided technology, GPS system, and other such systems are the buzzwords for the smart arms industry. There has been a Revolution in Military Affairs (RMA) and Pakistan is also trying to get maximum benefits of it, but its pace can be accelerated by enhancing the capability and effectively utilising the existing capacity of its R&D sector.[82]

The domestic military industry's contribution to the economic growth of the states may also take some other forms, such as, the intellectual capital, a major cause of worry when it flees to foreign shores, will become 'captive' within the country.[83] The issue of unemployment in Pakistan can be dealt with by increased industrialisation. Figure 4 shows a Gallup Survey in 2011, which found out that 19% of Pakistani nationals, wish to permanently settle abroad. In June 2008, this percentage was 6%.[84] In 2013, it was reported that 2.7 Million Pakistanis exited the country in last five years.[85] Military industry is credited with having lucrative pay-scales, job security, with the chance of having advanced tools at hand to conduct the research and development work. So, there is no surprise that it not only restricts the brain-drain, but also reverses the process and attracts Pakistanis living abroad to serve the state.

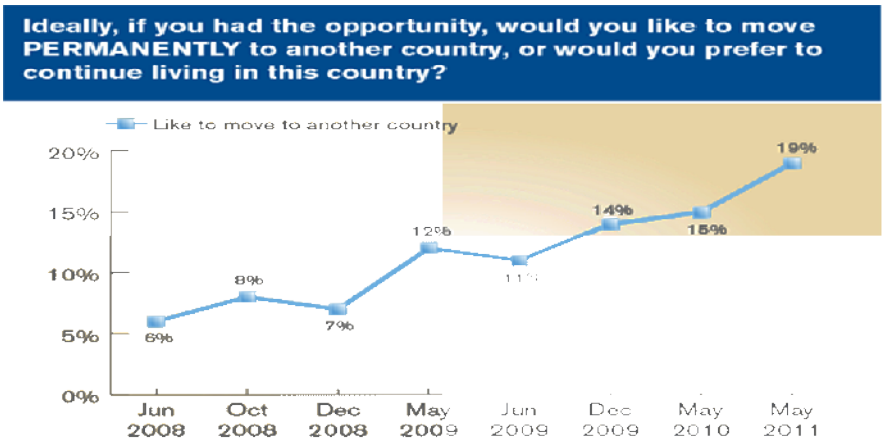

Figure 4: Pakistanis Willing to Move Abroad Permanently (Source: Gallup 2011)

Second, imported arms have served as leverage in the hands of the foreign governments to squeeze Pakistan to accept their demands, especially at times when those arms are needed the most. Pakistan has remained under Western sanctions for a large part of its history. These sanctions, especially those of 1990s, proved to be a blessing in disguise and Pakistan vigorously pursued a policy of self-reliance, thus reducing its partial dependence on the imported arms.

Third, the related benefit of strong defence industrial base is the national prestige. The anarchical nature of the international system demands a country to be militarily as well economically strong, and pursuance of a strong defence industry serves both purposes. David Isenberg pointed out that through defence exports, "Pakistan is trying to strengthen its industrial base and bolster its standing as a regional power."[86]

Fourth, through launching joint ventures with other states in the defence industrial sector, Pakistan is promoting its standing in the international community as a *new and responsible* player in the *old game*.[87]

Conclusion

The overall increase in the defence budget of South Asian States, since 1990, may be attributed to the changed security perceptions in the post-Cold War era, with the defence budgets of Pakistan and India increasing manifolds.[88] However, India's defence modernisation programme appears to be more advanced compared to Pakistan,[89] coupled with the visits by the heads of five major powers to India in a short span of two months in 2010.[90] Despite these developments, Pakistan's military spending remains low compared to other states in the region.[91] Given the poor socio-economic state of Pakistan, many analysts have demanded further decrease in its defence expenditure to spare the funds for the developmental sphere. If agreed, it is likely to be a unilateral moratorium on the military spending.[92] Considering existing strategic and economic compulsions, a workable option is to capitalise on the existing military spending and steps be taken to make it beneficial for the economic growth of the state. Developing states can maintain the higher military spending along-with an appreciable economic growth rate, by pursuing a policy of military to cater for its own needs.

Pakistan defence industry's self reliance certainly gradually increases its efficiency and capacity to provide the revenue for the military as a whole. To pursue this objective, it seems imperative that the parliament should legislate that while formulating the acquisition plans, Pakistan focuses not only on the import of the equipment but also of the related technology. It would qualitatively and quantitatively improve the technological base of the industries in Pakistan. An example of such an approach can be the development of totally indigenous submarine in Pakistan.[93] The most important benefit of the indigenous defence industry is the availability of the required equipment to the armed forces to face the exigencies, even if the foreign supplies are impeded. Pakistan can benefit by focussing the development of the Potential Defence Capacity (PDC),[94] which will not only be used for strengthening the country's defence but also help in its economic growth.

Existing military spending needs to be efficiently utilized. Excesses like wasteful imports of luxury cars or other luxury items for the senior officers should be minimised, besides increasing the efficiency by curbing corruption especially in the military procurements. Resources may be raised by minimizing the monetary benefits for high-ranking officers, and avoiding wastage in the communication in inter- and intra-services setup because of the less-developed C4Is. Certain steps by General Musharraf's government in order to address this issue were commendable. Shireen Mazari noted in 2002 that: "Theoretically there should be total cooperation between the three services in terms of doctrine and induction of new weapons systems, with the existence of the Joint Chief of Staff Committee (JCSC) … but the reality is different … even at the level of R&D, each service seems to be 'going-it-lone'."[95] It resulted in not only the wastage of time and space, but also the resources. Operations may be characterized by the 'true jointness' and inter-service rivalries that lead to final excesses and turf wars should be eliminated.[96] Private enterprises should be brought in, especially in the non-strategic avenues to enhance the capacity and efficiency, to have a target oriented approach, and to spare the resources to be used in strategic avenues.

These aforementioned resources can be used for the promotion of the economic growth of the state, through conversions in industries and development of ancillary industries. The focus of the policies should be in this direction e.g. POF Wah consists of some fourteen industries and three subsidiaries, out of which certain industries like Tungsten Alloy Factory, Tungston Carbide Factory, Steel Foundry, Brass Mills, Garments Factory, Wah Nobel, Wah Hi-Tech Plastics[97] have dual use, and can be wholly or partially privatised without any security predicaments – for instance, if Garments Factory is totally privatised, it will not endanger the security or the supply of the important commodity, rather it will enhance its efficiency. Moreover, Pakistan has been promoting its defence equipment through IDEAS and at other international defence exhibitions. Though it appears to be a step in the right direction, however, its pace may be increased

and vigorous marketing strategies can be pursued by taking help from the specialised private sector in this regard.

Pakistan is spending nearly 3% of its GDP on defence; it follows that 97% may be more efficiently utilized by reducing the wastage of the resources, enhancing skills and accountability at all levels.[98] The 3% may also be used for the promotion of the economy, primarily through conversions. Maintaining advanced military is expansive while war may be more expensive than ensuring the defence capability of the state,[99] hence for a state similar to Pakistan that has already invested greatly in defence infrastructure, defence spending may provide the bases for rational industrial planning through innovation, providing security and protection to the state, and creating options for the economic uplift.

Notes

[1] Jasjit Singh, 'Reducing Defence Expenditure: Issues and Challenges for South Asian Countries', in *Defence Expenditure in South Asia: An Overview*, ed. Jasjit Singh and Pervaiz Iqbal Cheema, RCSS Policy Studies 10 (Colombo: Regional Centre for Strategic Studies, 2000). While this also must be kept in mind that the security policies of South Asian states affect the security of many countries around the world.

[2] "India has either played the nosey big brother or it has completely ignored its neighbours. During the heady days of Indira Gandhi's intimidating foreign policy, the country has split the old Pakistan into two, trained Tamil insurgents to (try to) split Sri Lanka too, if need be, played along with the Soviet Union in Afghanistan, meddled in Nepal, "influenced" Bhutan and, by and large, wreaked havoc in the neighbourhood". Rajesh Ramachandran, 'Narendra Modi Wants a Larger Role for India in South Asian Neighbourhood', *The Economic Times*, 30 June 2014. Also see J. Jegannathan, *Alternative Regional Strategy for India: Exploring Soft Power Options*, IPCS Issue Brief (Institute of Peace and Conflict Studies, January 2012).

[3] Saeed Shafqat, "Islamic world and South Asia: Rise of Islamism and Terror, Causes and Consequences?" in Dr. Kaniz F.Yusuf, ed. *Unipolar World & The Muslim States* (Islamabad: Pakistan Forum, 2004) pp 217-246.

[4] Stephen Philip Cohen, "India, Pakistan and Kashmir," *The Journal of Strategic Studies,* Vol. 25, No. 2, December 2002, p. 34.

[5] Considering another perspective of security i.e., human security, South Asia houses twenty three percent of the world's poorest people, and has the largest number of people living below poverty line in absolute terms. Even

then not a single state of the region is in a position – nor willing – to decrease its defence expenditure because of the threat perceptions and the domestic political pressure. It is of primary importance to assess the impacts of high military spending and the possibilities of transforming the military industrial complex in order to raise the level of economic growth of the developing states. Ejaz Ghani, *The South Asian Paradox*, Poverty Reduction and Economic Management (World Bank, 25 October 2012).

[6] The global war on terrorism has inflicted more than 100 billion US dollars losses on Pakistani economy and also completely hindered the foreign direct investment Pakistan.

[7] S.T. Jackson, M. Grinbaum, "The Indian arms-production and military services industry," *SIPRI Yearbook 2012: Armaments, Disarmament and International Security* (Oxford: Oxford University Press, 2012), p. 239. It was reported that in fiscal year 2012-13 India spent 97.9 billion rupees ($1.8 billion), 5.2 per cent of its military budget, on military Research and Development. This is to be increased to 106 billion rupees for fiscal year 2013-2014. "Budgets and accounts" *Department of Defense* (Ministry of Defence, Government of India: November 21, 2013), http://www.mod.nic.in/forms/Mainlinks.aspx?lid=1584&Id=56, accessed on January 25, 2015.

[8] Sam Perlo-Freeman, 'Military Expenditure', in *SIPRI Yearbook 2013: Armaments, Disarmament and International Security*, Stockholm International Peace Research Institute (Oxford University Press, 2013).

[9] Editorial, 'A Check on Arms Trade', *Dawn*, 28 October 2006.

[10] David K. H. Begg, Stanley Fischer, and Rudiger Dornbusch, *Economics*, 4th ed. (London: McGraw-Hill, 1994), 32.

[11] Dipankar Banerjee, 'Preface', in *Defence Expenditure in South Asia: An Overview*, ed. Jasjit Singh and Pervaiz Iqbal Cheema, RCSS Policy Studies 10 (Colombo: Regional Centre for Strategic Studies, 2000).

[12] Damodar Das Khanna and P. N. Mehrotra, *Defence Versus Development: A Case Study of India* (Indus Publishing Company, 1993), 95.

[13] Distinguishing the terms military spending, defence spending, military expenditure, defence expenditure, and defence budget do not fall under the scope of this paper, thus the terms are often used interchangeably. At times it happens in certain states that military budgets don't really represent the military spending. It is because of the fact that (in such states) certain military acquisition programs are funded through extra-budgetary resources. So the use of the term 'defence budget' will be minimized so as to avoid the confusion.

[14] Stockholm International Peace Research Institute, 'Monitoring Military Expenditures', Page, accessed 6 August 2014, http://www.sipri.org/research/armaments/milex/measuring-military-expenditures.

[15] Campbell R. McConnell and Stanley L. Brue, *Microeconomics: Principles, Problems, and Policies*, 13th ed. (McGraw-Hill, 1996), 29. A

somewhat similar definition of Economic Growth can be 'an increase in the total output of a nation over time', Larry Weiser and Lynn Kirby, 'Glossary of Economic Terms and Concepts', Wisconsin Council on Economic Education, *Economics Wisconsin*, accessed 6 August 2014, http://www.economicswisconsin.org/guide/glossary.htm.

[16] Charles Irving Jones, *Introduction To Economic Growth*, 2nd ed. (W.W. Norton & Company, 2002), 11.

[17] N. Gregory Mankiw, *Principles of Economics* (Cengage Learning, 2014), 486.

[18] D. N. Dwivedi, *Macroeconomics: Theory and Policy*, 3rd ed. (Tata McGraw-Hill, 2010), 57.

[19] Scholars like Barry Buzan have demarcated five sectors which fall under the heading of 'security' namely; "military, environmental, economic, societal and political". Buzan, and *et.al.* noted: "Security is defined to involve perceived threats to the survival of some highly valued referent object. The objects of such threats can be varied, including not only territorial states but also non-state actors (e.g., nations, tribes, classes), sets of abstract principles (e.g., the rules of the liberal international economic order) or even nature itself (e.g., the global environment). Similarly, threats can arise from any source, including aggressive states, unfavourable social trends (e.g., rapid population growth) or cultural imperialism (e.g., Westernisation). Existential threats can manifest themselves across a number of different policy contexts or 'sectors,' including economic, environmental, cultural and the more traditional political and military spheres … preservation of the political system, economic and political well-being of all societies of the people, as well as external security that encompasses military, economic, food, energy, environment and political dimensions". Barry Buzan, Ole Wæver, and Jaap de Wilde, *Security: A New Framework for Analysis* (Lynne Rienner Publishers, 1998), 2–25. Also see C. Maxwell Stanley, 'New Definition for National Security', *Bulletin of the Atomic Scientists* 37, no. 3 (March 1981): 1. Caroline Thomas notes that "Security in the Third World countries now encompasses the "internal security of the state through the nation-building, the search for secure systems of food, health, money and trade." Caroline Thomas, *In Search of Security: The Third World in International Relations* (Lynne Rienner Publishers, 1987).

[20] "Threat is an inherent geo-political environmental condition for which the price and penalty will have to be paid by the target state if it fails to build its own effective warding-off mechanism. Environmental conditions (threats), domestic or international, are inherently dynamic and not static." The theoretical debate on the threat perception in the case of Indo-Pak is discussed by Pervaiz Iqbal Cheema, *Pakistan's Defense Policy, 1947-58* (St. Martin's Press, 1990), 67–99.

[21] Stephen M. Walt, 'The Renaissance of Security Studies', *International Studies Quarterly* 35, no. 2 (June 1991): 12–13.

[22] US Department of Defense, DOD, 'Deterrence', *DOD Dictionary of Military and Associated Terms*, Joint Publication 1-02 (US Department of Defense, 16 July 2014).
[23] Khalid Mehmud, 'Governance and National Security: Pakistan-A Case Study', in *Security Studies in South Asia: Change and Challenges*, ed. Dipankar Banerjee (Manohar Publishers, 2000), 131.
[24] Steve Chan raised this question as, "whether economic prosperity produces increased defence outlays or whether increased defence outlays leads to economic prosperity". Steve Chan, 'The Impact of Defense Spending on Economic Performance: A Survey of Evidence and Problems', *Orbis* 29, no. 2 (Summer 1985): 411.
[25] Émile Benoit, *Defense and Economic Growth in Developing Countries* (Lexington Books, 1973).
[26] Emile Benoit, 'Growth and Defense in Developing Countries', *Economic Development and Cultural Change* 26, no. 2 (January 1978): 275.
[27] Abdur R. Chowdhury, 'A Causal Analysis of Defense Spending and Economic Growth', *Journal of Conflict Resolution* 35, no. 1 (March 1991): 83. China has been developing its economy since long, while keeping a low profile in the military activities. After achieving a stable economic growth rate, it is now strengthening its military muscle.
[28] Khanna and Mehrotra, *Defence Versus Development*, 35–36.
[29] Ibid.
[30] Ron Matthews, *Defence Production in India* (ABC Pub. House, 1989), 27–29.
[31] Donald C. Winter, *Adapting to the Threat Dynamics of the 21st Century*, Backgrounder, National Security and Defense (The Heritage Foundation, 15 September 2011). <http://www.heritage.org/research/reports/2011/09/adapting-to-the-threat-dynamics-of-the-21st-century>
[32] Peter C. Frederiksen and Robert E. Looney, 'Defense Expenditures and Economic Growth in Developing Countries', *Armed Forces & Society* 9, no. 4 (1983): 643. Other authors supporting the beneficial aspects of military spending include Gavin Kennedy, who stated that military's "disaster rehabilitation, mapping, surveying, geological and meteorological Research & Development have civilian spin-offs". Kennedy, *The Military in the Third World* (Scribner, 1974)., Kennedy, *Defense Economics* (Duckworth, 1983). Mary Kaldor found a positive correlation between military spending and industrialisation., Kaldor, 'The Military in Development', *World Development* 4, no. 6 (1976): 459–482. See also David K. Whynes, *The Economics of Third World Military Expenditure* (Macmillan, 1979).
[33] Benoit, 'Growth and Defense in Developing Countries', 277. See also Benoit, *Defense and Economic Growth in Developing Countries*.
[34] Khanna and Mehrotra, *Defence Versus Development*, 28.
[35] Todd Sandler and Keith Hartley, *The Economics of Defense* (Cambridge University Press, 1995), 256.

[36] R. E. Looney, 'Defense Expenditures and Macroeconomic Stabilization in Pakistan: A Test of the Military Keynesianism Hypothesis', *RISEC* 45, no. 1 (1998): 599–613. Also see Robert E. Looney, 'Excessive Defense Expenditures and Economic Stabilization: The Case of Pakistan', *Journal of Policy Modeling* 19, no. 4 (1997): 381–406. Mahmoodul Hasan Khan, *Defence Expenditure and Macroeconomic Stabilization: Causality Evidence from Pakistan*, SBP Working Paper Series (State Bank of Pakistan, December 2004).

[37] Looney, 'Defense Expenditures and Macroeconomic Stabilization in Pakistan', 610.

[38] Saadet Deger and Ron Smith, 'Military Expenditure and Growth in Less Developed Countries', *Journal of Conflict Resolution* 27, no. 2 (1983): 351–52.

[39] Saadet Deger and Somnath Sen, 'Military Expenditure, Spin-off and Economic Development', *Journal of Development Economics* 13, no. 1 (1983): 67.

[40] Benoit, 'Growth and Defense in Developing Countries'. Also see Benoit, *Defense and Economic Growth in Developing Countries*.

[41] Frederiksen and Looney, 'Defense Expenditures and Economic Growth in Developing Countries', 643.

[42] Wassily Leontief and Faye Duchin, *Military Spending: Facts and Figures, Worldwide Implications and Future Outlook* (Oxford University Press New York, 1983), 66.

[43] David Lim, 'Another Look at Growth and Defense in Less Developed Countries', *Economic Development and Cultural Change* 31, no. 2 (January 1983): 384.

[44] Matthews, *Defence Production in India*, 29.

[45] Basudeb Biswas and Rati Ram, 'Military Expenditures and Economic Growth in Less Developed Countries: An Augmented Model and Further Evidence', *Economic Development and Cultural Change* 34, no. 2 (January 1986): 362, 370.

[46] Pivotal State as "A state (which) is so important regionally that its collapse would spell trans-boundary mayhem: migration, communal violence, pollution, disease and so on. A pivotal state's steady economic progress and stability, on the other hand, would bolster its region's economic vitality and political soundness". Robert Chase, Emily Hill, and Paul Kennedy, 'Pivotal States and U.S. Strategy', *Foreign Affairs*, February 1996. Robert S. Chase, Emily Hill, and Paul Kennedy, review of *The Pivotal States: A New Framework for U.S. Policy in the Developing World*, by Philip Zelikow, *Foreign Affairs*, 1 May 2000.

[47] "Pakistan thinks that India has not accepted the partition of British India in good faith". Rasul Bakhsh Rais, 'Post-Cold War Security Studies in Pakistan: Continuity and Change', in *Security Studies in South Asia: Change and Challenges*, ed. Dipankar Banerjee (Manohar Publishers, 2000), 125–26.

[48] Ahmed Faruqui noted, "In 1990's the economy slowed down to a crawl, as successive civilian regimes outdid each other in the corruption and mismanagement". Ahmad Faruqui, 'A Blueprint for Pakistan's Economic Revival', *IPRI Journal* 2, no. 1 (Winter 2002): 22.

[49] Alex Wagner, 'Bush Authorized to Lift Sanctions on Pakistan', *Arms Control Association*, November 2001, https://www.armscontrol.org/act/2001_11/paksancnov01.

[50] In 2014, it was reported that "since 9/11, the US has disbursed over $12 billion on account of CSF to Pakistan." Tribune Correspondence, 'Coalition Support Fund: Pakistan to Receive $380m This Month', *The Express Tribune*, 10 May 2014.

[51] Ishrat Husain, 'Economic Reforms in Pakistan: One Step Forward, Two Steps Backwards', in *Quaid-E-Azam Lecture* (Annual Conference of Pakistan Society for Development Economics, Islamabad, 2012), 12–13. Also see Bureau of South and Central Asian Affairs, *Background Note: Pakistan*, Country Profile (Washington D.C.: US Department of State, May 2007), http://www.infoplease.com/country/profiles/pakistan.html. IBRD-IDA, *Growth in Pakistan*, Macroeconomics & Economic Growth (World Bank, 2005), http://go.worldbank.org/QTEHWN5Q70.

[52] Thomas L. Friedman, 'The Great (Double) Game', *The New York Times*, 31 July 2010, sec. Opinion, http://www.nytimes.com/2010/08/01/opinion/01friedman.html.
Editorial, 'Wikileaks: Pakistan's Double Game', *The New York Times*, 26 July 2010, sec. Opinion, http://www.nytimes.com/2010/07/27/opinion/27tue1.html.David Millar, 'Why Pakistan Plays a Double Game', *Huffington Post*, 11 May 2011, http://www.huffingtonpost.com/david-millar/why-pakistan-plays-a-doub_b_860184.html.

[53] One of the purposes of the nuclear weapons of Pakistan was "to compensate for its conventional military inferiority". Rais, 'Post-Cold War Security Studies in Pakistan: Continuity and Change', 128.

[54] Husain, 'Economic Reforms in Pakistan: One Step Forward, Two Steps Backwards'.

[55] Shireen M. Mazari, 'The Development of Defence and Strategic Studies as a Social Science Discipline in Pakistan', in *The State of Social Sciences in Pakistan*, ed. S.H. Hashmi (Islamabad: Quaid-i-Azam University Press, 1998), 224.

[56] Mehmud, 'Governance and National Security: Pakistan-A Case Study', 132.

[57] Pakistan Army has 617,000 active duty personnel. Editorial, '2014 Pakistan Military Strength', *Global Fire Power*, 2014, http://www.globalfirepower.com/country-military-strength-detail.asp?country_id=pakistan.

[58] One such example is the establishment of cadet colleges. The people in LDCs usually prefer the military run educational institutions as compared to the civil administered schools. It is because of the quality education

being imparted by military-run education institutions, and their lower or subsidised tuition fees.

[59] IBRD-IDA, *Pakistan: Rural Population (% of Total Population) Data* (World Bank, 2013), http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS..

[60] Ayesha Siddiqa Agha, *Military Inc.: Inside Pakistan's Military Economy* (Pluto Press, 2007).

[61] Khanna and Mehrotra, *Defence Versus Development*, 139.

[62] Fazal Muqeem Khan, *The Story of the Pakistan Army* (Karachi: Oxford University Press, 1963), 40.

[63] Muhammad Taufeeq, 'POF: The Force Behind the Forces', *Pakistan Observer*, 6 September 2012. POF MIS, 'History of Pakistan Ordnance Factories', *Pakistan Ordnance Factories*, 2014, http://www.pof.gov.pk/History.aspx.

[64] Mahmud Ali, 'The Rise of Pakistan's Army', *BBC News*, 24 December 2003, sec. South Asia.

[65] MODP, 'Ministry of Defence Production: History/Background', *Government of Pakistan*, 2014, http://www.modp.gov.pk/.

[66] HIT, 'Heavy Industries Taxila: Background', *Government of Pakistan*, 2014, http://www.hit.gov.pk/aboutus.html.

[67] PAC, 'Pakistan Aeronautical Complex Kamra - History', *Government of Pakistan*, 2014, http://www.pac.org.pk/history. Hasan Askari Rizvi, *The Military and Politics in Pakistan* (Progressive Publishers, 1987), 205.

[68] Tahir Ashraf Khan, 'D.G's Message: DEPO', *Defence Export Promotion Organisation*, 2012, http://www.depo.org.pk/contents.php?section_id=115.

[69] MODP, 'Ministry of Defence Production: History/Background'.

[70] DEPO, 'Overview of IDEAS (International Defence Exhibition and Seminar) 2014', *IDEAS Pakistan*, 2014, http://ideaspakistan.gov.pk/2014_ideas_overview.php.

[71] IDEAS 2012, 'Defence Industry Likely to Reach $10.4 Billion by 2015', *The News International*, 16 November 2012.

[72] Muhammad Munir, Tamour Khan, and Amna Pervez, *Year Book 2012-2013* (Rawalpindi: Ministry of Defence Production, 2013).

[73] IDEAS 2012, 'Defence Industry Likely to Reach $10.4 Billion by 2015'.

[74] POF, 'Pakistan Ordnance Factories (POF) / Havelian Cantt', *Global Security*, 2014, http://www.globalsecurity.org/military/world/pakistan/pof.htm. POF MIS, 'Frequently Asked Questions: POF', *Pakistan Ordnance Factories*, 2010, http://www.pof.gov.pk/faqs.aspx.

[75] POF MIS, 'Frequently Asked Questions: POF'.

[76] It is reported that Pakistan secured its first contract of JF-17 aircrafts from one of the Asian countries. Air Commodore Khalid Mahmood stated that "A contract has been signed with an Asian country." Greg Waldron, 'PARIS: JF-17 Wins First Export Order', *Flight Global*, 14 June 2015,

http://www.flightglobal.com/news/articles/paris-jf-17-wins-first-export-order-413480/.

[77] "State and private enterprise should go side-by-side in the defence industry … but before allowing private enterprise, certain rules should be made, in order to keep a check on the private enterprises that they should follow government policy in the sale of the arms (because of the sensitivity of the industry)". Maj. Gen. (Retd.) Jamshed Ayaz Khan and Former Additional Secretary Defence Production and Former President Institute of Regional Studies (IRS), Defence Production, interview by Muhammad Nadeem Mirza, Islamabad, 21 November 2006. "Pakistan Ordnance Factories have been opened for joint ventures, joint training and joint Research and Development with private sector. We want to make POF a hub of national industrial activities". Lt. Gen. (Retd.) Syed Sabahat Hussain, '"POF to Be Made Hub of Industrial Activity"', *Dawn*, 10 November 2006.

[78] "Germany and South Korea have agreed to enter into joint ventures with Pakistan for manufacturing 'smart arms and ammunitions' by transferring the latest technology to Islamabad…Turkey has also shown keen interest in launching a joint venture". Ministry of Defence, 'Co-Production of Arms with Germany, S. Korea Soon', *Dawn*, 17 November 2006. China has always been a partner of Pakistan in the defence industrial sector.

[79] Bruce D. Berkowitz, *The New Face of War: How War Will Be Fought in the 21st Century* (New York: The Free Press, 2003), 5–6.

[80] APP, 'Intellectual Boom: "Pakistan Is Publishing More Research Papers per Capita than India"', *The Express Tribune*, 17 July 2013.

[81] APP, 'Total Number of PhDs Reaches 8,142 in Pakistan', *The News International*, 8 October 2012.

[82] For a detailed history of the concept and the evolution of RMA, see: Theodor W. Galdi, *Revolution in Military Affairs? Competing Concepts, Organizational Responses, Outstanding Issues*, CRS Report for Congress (Congressional Research Service, 1995). Steven Metz and James Kievit, *Strategy and the Revolution in Military Affairs: From Theory to Policy* (DIANE Publishing, 1995). Dipankar Banerjee, 'Revolution in Military Affairs', *Asian Defence Journal*, no. 9 (1997): 17–19. David Jablonsky, 'US Military Doctrine and the Revolution in Military Affairs', *Parameters* 24, no. 3 (1994): 18–36. Steven Metz and James Kievit, *The Revolution in Military Affairs and Conflict Short of War* (DTIC Document, July 1994).

[83] Dhiraj Kukreja, 'Defense Production: Enter The Private Sector', *Indian Defence Review* 20, no. 1 (March 2005): 31–32.

[84] Gallup Survey, *Pakistan's Troubled State* (Abu Dhabi: Gallup Inc., July 2011).

[85] APP, 'Brain Drain: 2.7m Pakistanis Have Exited Country in Last 5 Years', *The Express Tribune*, 23 December 2013.

[86] David Isenberg quoted by Roxana Tiron, 'Pakistan Pushing Military Exports', *National Defense Magazine*, May 2005.

[87] This is especially important in the current circumstances when Pakistan is being defamed because of the tireless efforts of Modi government, AQ Khan issue, much-hyped double game in Afghanistan, and its presumed providing of the safe havens to the Haqqani's and the sort. In such a state of affairs, it does have some states in the international arena who are ready to support or at least listen to Pakistan's side of the story. So Pakistan is trying to develop some sort of complex interdependence through the effective use of its energies.

[88] Stockholm International Peace Research Institute, *SIPRI Yearbook 2013: Armaments, Disarmament and International Security* (Oxford University Press, 2013). Carl Conetta and Charles W. Bray, *Post-Cold War US Military Expenditure in the Context of World Spending Trends*, Briefing Memo # 10 (Project on Defense Alternatives, January 1997).

[89] Perlo-Freeman, 'Military Expenditure'.

[90] American President Barack Obama and British Prime Minister David Cameron visited India in November 2010, French President Nicolas Sarkozy, Chinese Prime Minister Wen Jiabao, Russian President Dmitry Medvedev visited India in December 2010. Christophe Jaffrelot, 'India: More than a Market', *The Caravan Magazine*, 1 January 2011. Rajeev Deshpande, 'Obama Backs India for UN Seat', *The Times of India*, 9 November 2010. Nicholas Watt, 'David Cameron Seeks to Impress India with His Massive Delegation', *The Guardian*, n.d., sec. Politics, accessed 20 August 2014. Ambassador, 'Wen Jiabao Leaves for Visits to India, Pakistan', *Chinese Embassy in India*, 15 December 2010. News, 'Nicolas Sarkozy and Manmohan Singh in Nuclear Deal', *BBC News*, 6 December 2010. Jonathan Marcus, 'Medvedev Seals India Visit Deals', *BBC News*, 21 December 2010.

[91] Mateen Haider, 'Pakistan's Defence Spending Lowest in Region', *Dawn*, 20 May 2014.

[92] Khalid Mehmud has said that the 'asking for a unilateral reduction of the defence expenditure is no less than asking for the moon.' Mehmud, 'Governance and National Security: Pakistan-A Case Study', 134–35.

[93] Pervaiz Iqbal Cheema noted that, "first submarine for Pakistan was made in France, the second in Pakistan with the joint effort of French and Pakistanis, and now the third one is solely indigenous". Pervaiz Iqbal Cheema, A Talk about Pakistan's Military Spending, interview by Muhammad Nadeem Mirza, 19 October 2006.

[94] Gavin Kennedy termed the industries such as those of "engineering and metal production especially the following industries; metal production, non-electrical machinery, electrical machinery, ship-building and repairing and finally transportation equipment production industries as Potential Defense Capacity (PDC) of a country". Gavin, *The Military in the Third World*, 296–97.

[95] Shireen M. Mazari, 'Nature of Future Pakistan-India Wars', *Strategic Studies (Islamabad)* 22, no. 2 (Summer 2002): 7–8.

[96] Faruqui, 'A Blueprint for Pakistan's Economic Revival', 33–35.

[97] POF MIS, 'History of Pakistan Ordnance Factories'.
[98] Berkowitz, *The New Face of War*, 5.
[99] Sandler and Hartley, *The Economics of Defense*, 262.